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ABSTRACT

This report provides results of Phase I of a project that researched the occupational area of dental laboratory technology, established appropriate committees, and conducted task verification. These results are intended to guide development of a program designed to train dental laboratory technicians. Section 1 contains general information: purpose of Phase I; description of the occupation, including nature of work, working conditions, and related occupations; direction of the occupation, including employment, training and other qualifications, advancement, job outlook, and earnings; program development committee; areas of concern; State Technical Committee developmental recommendations; and project staff recommendations. Section 2 presents research findings: accreditation and certification; list of typical job titles; and appropriate trade resources and sources, including references and textbooks, journals, anatomical models, audiovisuals, curriculum materials, sources for competency-based testing materials, and sources of additional information. A verified occupational duty and task list is comprised of seven duties: anatomy and physiology related to prosthetic services; quality assurance, safety, and communication skills; legal and ethical principles; business management; dental science; dental laboratory techniques; and employability skills. Other contents include a tools and equipment list and staff and facilities recommendations. Accreditation standards are appended. (YLB)

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DENTAL LABORATORY TECHNOLOGY

PROJECT REPORT

PHASE I

WITH

RESEARCH FINDINGS

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DENTAL LABORATORY TECHNOLOGY

PROJECT REPORT

PHASE I

WITH

RESEARCH FINDINGS

Developed by

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SECTION ONE

GENERAL INFORMATION

PURPOSE OF PHASE I

Phase I focused on researching the occupation, establishing appropriate committees, and conducting task verification. The results of this phase have provided the basic information required to develop the program standards and guide and set up the committee structure to guide the project.

The program is designed to address the needs of the dental service field that use or plan to use graduates as dental laboratory technicians.

DESCRIPTION OF OCCUPATION

Nature of the Work

Dental laboratory technicians are skilled craft workers who make and repair a wide variety of dental restorations and appliances, such as dentures, partial dentures, bridges, crowns, and orthodontic appliances. All work is done according to written prescriptions submitted by the dentist. Technicians make appliances from acrylics, ceramics, composites, and metals. They use models of dental stone or plaster pourings made from impressions of a patient's teeth or mouth taken by the dentist. Sometimes these models are made by the dentist or an assistant, but most often by the technician.

Although the nature of the work varies from one dental laboratory to another, most technicians specialize in one of the following areas: crowns and bridges, partial and complete dentures, ceramics, and orthodontics. For example, a removable partial denture technician makes and repairs contoured metal frames and retainers for teeth used in partial dentures; an orthodontic technician makes appliances for straightening teeth and treating speech impediments; and some technicians fabricate and repair crowns and bridges, appliances for dental implants, and complete dentures.

Job duties change as workers gain experience and develop expertise in a particular specialty. Trainees in beginning jobs usually mix and pour plaster into impression molds and perform other simple tasks. As they gain experience, they do more precise laboratory work such as arranging artificial teeth on dentures, working with dental ceramics (porcelain), or making wax models and casting gold and other metal alloys.

Technicians use small hand instruments such as wax spatulas and wax carvers, as well as special electric lathes and high-speed drills, high-heat furnaces, metal-melting torches, and other specialized laboratory equipment.

Technical advances affect the materials and equipment used in the dental laboratory. For example, it is now possible to cast porcelain crowns and both facings in a mold without physically bonding the porcelain to a metal framework. This has dramatically changed the work performed by dental ceramists.

Computer-aided equipment that can measure a patient's mouth and automatically fabricate dentures has recently been invented, but this technology is still in its infancy; no significant impact on the work of dental laboratory technicians is foreseen by the year 2000.

Working Conditions

Whether they are employed in independent commercial laboratories, dental offices, or in home laboratories, dental technicians work in typical laboratory surroundings. Work areas are generally clean, well-lighted, and well-ventilated. Technicians usually have their own workbenches which are equipped with Bunsen burners, grinding and polishing machines, and various hand tools. Where many power tools are operating, noise levels may be considerable.

Working Conditions (cont.)

The work is not strenuous, although there may be pressure to meet dentists' deadlines. Salaried technicians usually work 40 hours a week but self-employed technicians frequently work longer hours.

Related Occupations

Dental laboratory technicians fabricate artificial teeth, crowns and bridges, and orthodontic appliances following the specifications and instructions provided by the dentist. Other workers who make medical devices include arch-support technicians, orthotics technicians (braces and surgical supports), prosthetics technicians (artificial limbs and appliances), opticians, and ophthalmic laboratory technicians.

DIRECTION OF THE OCCUPATION

Employment

Dental laboratory technicians held about 46,000 jobs in 1986. Most jobs were in commercial dental laboratories, which usually are small, privately owned businesses with fewer than 10 employees. However, a few laboratories are much larger and employ over 50 technicians. Dental laboratories are located throughout the country, but large laboratories mainly are found in cities and populous states. Many laboratories receive work through the mail from dentists who work a considerable distance away.

About 9,000 dental laboratory technicians worked in dentists' offices. Others worked for hospitals that provide dental services and for the Federal Government, chiefly in Veterans Administration hospitals and clinics.

More than 1 technician in 5 is self-employed, a higher proportion than in most other occupations. Some of these jobs are held by technicians who work in home dental laboratories in addition to their regular job.

Training, Other Qualifications, and Advancement

Most dental laboratory technicians learn their craft on the job, usually in 3 to 4 years. High school graduates are preferred, and courses in art, metal shop, and science are helpful. Many of those hired as trainees already have some knowledge of dental laboratory work, usually because they have taken courses or completed formal training programs.

Training in dental laboratory technology is available through community and junior colleges, vocational-technical institutes, and trade schools; high school vocational education programs; apprenticeships; and the Armed Forces. Formal training programs vary greatly both in length and the level of skill they impart. Accredited programs generally take 2 years to complete and lead to an associate degree, although some lead to a certificate or diploma.

In 1986, 58 programs in dental laboratory technology were approved (accredited) by the Commission on Dental Accreditation in conjunction with the American Dental Association (ADA). These programs provide classroom instruction in dental law and ethics, materials science, oral anatomy, fabrication procedures, and related subjects. In addition, each student is given supervised practical experience in the school or an associated dental laboratory.

Although formal training has become more widespread in recent years, informal on-the-job training also is important. Each dental laboratory owner operates in a different way, and classroom instruction does not necessarily expose students to techniques and procedures favored by individual laboratory owners. Students who have taken enough courses to learn the basics of the craft generally are considered good candidates for training, regardless of whether they have completed the formal program. However, even graduates of 2-year training programs need about 3 additional years of practical experience to become fully

Training, Other Qualifications, and Advancement (cont.)

qualified in the craft. Military personnel who receive dental laboratory training in the Armed Forces qualify for civilian jobs as dental laboratory technicians.

Voluntary certification is offered by the National Board for Certification in five specialty areas: crown and bridge, ceramics, partial dentures, complete dentures, and orthodontics. Certification is increasingly important as evidence of a technician's competence.

Depending upon their skill, experience, and education, dental technicians may advance to supervisory or managerial positions. Continuing education in the field is increasingly important for advancement. For some technicians, career advancement means moving into a related job within the dental field: well-qualified technicians with a bachelor's or master's degree in education may become instructors in dental lab training programs. Others may find jobs in the development of dental materials or as sales representatives for dental products companies. In larger dental laboratories, technicians may advance by moving into supervisory positions. Still, for many technicians, advancement in this field means running one's own laboratory and enjoying the higher earnings that can accompany ownership.

Among the personal traits important in this occupation are a high degree of manual dexterity, good vision, and the ability to recognize very fine color shadings. These attributes must be combined with the ability to follow instructions and an inclination for detailed and precise work. High school students interested in careers in this occupation are advised to take courses in art, crafts, metal shop, metallurgy, and sciences. Those wishing to operate their own businesses also should consider management and business courses.

Job Outlook

Employment of dental laboratory technicians is expected to grow much faster than the average for all occupations through the year 2000 in response to rising incomes, population changes, and relatively widespread dental insurance coverage. The population will include a larger proportion of elderly people, a group with a high level need for the crowns, bridges, and dentures produced by dental laboratory technicians. The growing popularity of orthodontic work well beyond adolescent years may further heighten demand for dental laboratory services. Emphasis on orthodontic and cosmetic work may be spurred through technological advances or by dentists' marketing efforts, as competition among practitioners intensifies, not only for clientele, but for income-maximizing services.

Because dental laboratory technicians exhibit relatively strong attachment to the field, replacement needs are less important as a source of jobs than is the case for most other workers. However, some experienced workers leave dental laboratory technology each year to transfer to other occupations, and some retire.

Despite the trend toward corporate ownership of medical and dental laboratories, opportunities should be good for experienced technicians who wish to establish laboratories on their own. A technician whose work has become known to several dentists in a community will have the best prospects of building a successful business.

Earnings

Dental laboratory technicians who worked full time in commercial laboratories earned about $360 a week in 1986, according to the limited data available. Generally, education and experience, along with a specialized skill, bring higher earnings. Large dental laboratories employ supervisors or managers, who usually earn more than technicians. In general, earnings of self-employed technicians exceed those of salaried workers.

Many technicians in commercial laboratories receive paid holidays and vacations, and some also receive paid sick leave, bonuses, and other fringe benefits including continuing education opportunities.

The information presented in Description of the Occupation and Direction of the Occupation is adapted from public domain material, originally published in the Occupational Outlook Handbook, Bulletin 2300, by the Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

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STATE TECHNICAL COMMITTEE AREAS OF CONCERN

The State Technical Committee members expressed concern about:

a. the applicant pool is getting smaller and applicants are less educated and less career motivated;

b. salaries are low and trained dental lab technicians are not rewarded for formal training; and

c. advancement depends largely on the technicians continuing their education.

STATE TECHNICAL COMMITTEE RECOMMENDATIONS

The State Technical Committee recommended that:

a. the program include and/or exceed the objectives of the American Dental Association Accreditation Standards for Dental Laboratory Technology;

b. the program include basic math, communications, and employability skills that are appropriate to occupational needs;

c. the program be approximately six quarters long;

d. the program be offered at the diploma level with associate degree option at the local level; and

e. the program should emphasize professionalism and use of the most up-to-date techniques and methodology.

PROJECT STAFF RECOMMENDATIONS

The project staff recommends that the program be implemented so that it can be delivered in six quarters. The scheduling may be tight, but staffing in some schools necessitates having a progam that can be delivered in six quarters.

The program developed will meet and exceed the accreditation requirements of the American Dental Association. Therefore, the project staff recommends the use of the program as it will be developed.

SECTION TWO

RESEARCH FINDINGS

ACCREDITATION AND CERTIFICATION

This program must conform to the institutional accreditation requirements of the Southern Association of Colleges and Schools by meeting Commission on Colleges (COC) or Commission on Occupational Education Institutions (COEI) accreditation requirements and must not conflict with the accreditation criteria established by COC and COEI.

This program must meet the requirements stated in the Accreditation Standards Dental Laboratory Technology Education Programs.

Dental laboratory technicians are certified by the Dental Laboratory Technology National Board. Students may sit for the national exam upon completion of the program.

TYPICAL JOB TITLES

Phase I research has included an examination of the occupational areas for the dental laboratory field and has revealed 14 job titles for which training may be required. The Dictionary of Occupational Titles code and title are as follows:

712.281-010 DENTAL CERAMIST (medical ser.); ceramics technician; ceramist.

712.381-014 CONTOUR WIRE SPECIALIST, DENTURE (medical ser.)

712.381-018 DENTAL LABORATORY TECHNICIAN (medical ser.) dental technician.

712.381-022 DENTAL-LABORATORY-TECHNICIAN APPRENTICE (medical ser.) dental-technician apprentice.

712.381-026 ORTHODONTIC GOLD-BAND MAKER (medical ser.)

712.381-030 ORTHODONTIC TECHNICIAN (medical ser.)

712.381-010 DENTAL CERAMIST ASSISTANT (medical ser.)

712.681-010 DENTURE WAXER (medical ser.) waxer, metal, partial.

712.681-014 DENTURE-MODEL MAKER (medical ser.)

712.681-018 FINISHER, DENTURE (medical ser.) metal finisher; polisher.

712.684-014 BITE-BLOCK MAKER (medical ser.)

712.684-030 OPAQUER (medical ser.) porcelain-buildup assistant.

712.684-034 PACKER, DENTURE (medical ser.) molder.

712.684-038 REFINER (medical ser.)

APPROPRIATE TRADE RESOURCES

References and Textbooks

Basu, P. K. (1985). *Dental materials.* New York: State Mutual BK.

Brand, R. W., & Isselhard, D. E. (1990). *Anatomy of orafacial structures* (4th ed.). St. Louis: C.V. Mosby.

Combe, E. C. (1986). *Notes on dental materials.* (5th ed.). New York: Churchill.

Craig, et al. (1986). *Dental materials: Properties and manipulation.* (4th ed.). St. Louis, MO: C.V. Mosby.

Craig, R. G. (1984). *Restorative dental materials.* (7th ed.). St. Louis, MO: C.V. Mosby.

Greenburg, J.R. (1983). *Crown and bridge manual.* Philadelphia PA: University of Pennsylvania Press.

Hall, S. P. & Hirsch, F. L. (1981). *Fingertip reference for dental materials.* Albany, NY: Delmar.

Halterman, C.A. (1985). *Dental laboratory technology.* Englewood Cliggs, NJ: Reston.

Johnson, Phillips, & Dykema. (1971). *Modern practice in crown and bridge prosthodontics.* Philadelphia, PA: W.B. Saunders.

Leinfelder, K. F. & Lemons, J. (1988). *Clinical restorative materials and techniques.* Philadelphia, PA: Lea & Febiger.

Leinfelder, K. F. & Taylor, D. F. (1982). *Laboratory and clinical dental materials.* Chapel Hill, NC: University of North Carolina Press.

Linek, H. (1949). *Tooth carving manual.* New York: Columbia Dentoform.

McCabe & Anderson. (1985). Applied dental materials. (6th ed.). St. Louis, MO: C. V. Mosby.

Mjor, I. A. (1985). *Dental materials: biological properties and clinical evaluation.* Boca Raton, FL: CRC Pr.

Morrow, R. M. (1985). *Dental laboratory procedures, Volume I.* (2nd ed.). St Louis: C.V. Mosby.

Murray, H.V., & Sluder, T.B. (1989). *Fixed restorative techniques.* (Rev. ed.) Chapel Hill, NC: University of North Carolina Press.

Osborne, et al. (1979). *Dental technology & materials for students.* (7th ed.). St. Louis: C.V. Mosby.

Phillips, R.W. (1984). *Elements of dental materials.* (4th ed.). Philadelphia, PA: W. B. Saunders.

Rhoads, Rudd, R.D., & Morrow, R. M. (1985). *Dental laboratory procedures, Volume II.* St. Louis: C.V. Mosby.

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Shillingburg, Wilson, & Morrison. (1979). *Guide to occlusal waxing.* Chicago, IL: Quintessence.

Short, M. J. (1987). *Essential anatomies: Oral and head/neck.* Albany, NY: Delmar.

Sowter, J. B. (1987). *Removable prosthodontic techniques.* Chapel Hill, NC: University of North Carolina Press.

Stetcher, P. G. (1980). *New dental materials.* Park Ridge, NJ: Noyes.

Thibodeau, G. A., & Anthony, C. P. (1988). *Structure and function of the body* (8th ed.). St. Louis: C.V. Mosby.

Torres & Ehrlich. (1985). *Modern dental assisting* (3rd ed.). Philadelphia, PA: W.B. Saunders.

U.S. Air Force. (1982). *Dental laboratory technicians manual.* Washington, D.C.: U.S. Government Printing Office.

APPROPRIATE TRADE RESOURCES

Journals

ADA News & American Dental Association Journal
American Dental Association
211 E. Chicago Avenue
Chicago, IL 60611
(312) 440-2500

American Journal of Orthodontics & Dentofacial Orthopodics
American Association of Orthodontists
C.V. Mosby Co.
11830 Westline Industrial Dr.
St. Louis, MO 63146
(314) 872-8370

Dental Products Annual Report
Irving-Cloud Publishing Co.
7300 N. Cicero Avenue
Lincolnwood, IL 60646
(312) 674-7300

Dental Products Report
Irving-Cloud Publishing Co. (Skokie)
7400 Skokie Blvd.
Skokie, IL 60077
(312) 674-0110

Dental Clinics of North America
W.B. Saunders Co.
W. Washington Sq.
Philadelphia, PA 19105
(215) 574-4700

Georgia Dental Association Journal
Georgia Dental Association
143 Lamar St.
Macon, GA 31204-3007

Implantology
International Congress of Oral Implantologists
Box 912
Upper Montclair, NJ 07043
(201) 783-6300

Journals (cont.)

International Journal of Adult Orthodontics & Orthogenetic Surgery
Quintessence Publishing Co.
870 Oak Creek Dr.
Lombard, IL 60148-6405
(312) 620-4443

International Journal of Orthodontics
International Academy of Orthodontics
3953 N. 76th
Milwaukee, WI 53222
(414) 464-7870

APPROPRIATE TRADE RESOURCES

Anatomical Models

The following models are available from:

Armstrong Medical Industries, Inc.
P.O. Box 7
Northbrook, IL 60065-0007
1-800-323-4220

Lower Jaw of an 18 year old
Upper/Lower Jaw with Diseases
Development of Teeth
Artificial Human skull

APPROPRIATE TRADE RESOURCES

Audiovisuals

The following titles are available from:

American Association for Vocational
Instructional Materials
120 Driftmier Engineering Center
Athens, Ga 30602

Aids - Can I Get It? (48 min VHS)
Aids - Questions with Answers (VHS)

The following titles are available from:

Vocational Media Associates
Box 1050
Mount Kisco, NY 10549-0050
1-800-431-1242

Videotape

AIDS: Facts & Fears, Crisis & Controversy
The AIDS Epidemic: Is Anyone Safe?

Filmstrips or Sound Slides

Laboratory Equipment & Techniques
Dental Anatomy, Charting & Preventive Dentistry
Preparation of Impression Materials, Cements & Inlays

APPROPRIATE TRADE RESOURCES

Curriculum Materials

The following title is available from:

Instructional Materials Laboratory
10 Industrial Education Building
University of Missouri-Columbia
Columbia, Missouri 65211
(314) 882-2883

Dental Charting

The following title is available from:

The University of Texas at Austin
Extension Instruction & Materials Center
P.O. Box 7218
Austin, TX 78713 - 7218

Essential Elements Series: for Specific Areas:

Dental Charting, 1981

The following titles are available from:

Instructional Materials Laboratory
10 Industrial Education Building
University of Missouri - Columbia
Columbia, Missouri 65211
(314) 882-2883

Dental Charting, instructor manual (i) & student manual (s)

The following titles are available from:

Vocational Technical Education
Consortium of States
1866 Southern Lane
Decatur, Ga. 30033-4097
(404) 329-6543

Dental Laboratory Technician (1980)

APPROPRIATE TRADE RESOURCES

National Network for Curriculum Coordination in Vocational & Technical Education

For information on postsecondary materials contact:

Ms. Patt Stonehouse,
Acting Director of Instructional Services
Georgia Department of Technical
and Adult Education
Suite 660 South Tower
One CNN Center
Atlanta, GA 30303-2705
404/656-6714

APPROPRIATE TRADE RESOURCES

Regional Medical Library, Region #2 Southeastern /Atlantic

University of Maryland
Health Services Library
111 South Greene Street
Baltimore, MD 21201
(301) 528-2855
(800) 638-6093
TWX: 710-234-1610

APPROPRIATE TRADE RESOURCES

Sources for Competency-Based Testing Materials

Northeast Metro Technical Institute 916
3300 Century Avenue North
White Bear Lake, MN 55110

APPROPRIATE TRADE RESOURCES

Sources of Additional Information

For information about training and a list of approved schools, contact:

American Dental Association
Council on Dental Education
Division of Educational Measurement
211 E. Chicago Avenue
Chicago, IL 60611

Information on scholarships is available form dental technology schools.

For information on career opportunities in commercial laboratories and requirements for certification, contact:

National Association of Dental Laboratories
3801 Mt. Vernon Avenue
Alexandria, VA 22305

VERIFIED OCCUPATIONAL DUTY AND TASK LIST

The following duties and tasks are essential for workers who function as dental laboratory technicians.

DUTY LIST

DUTY A: Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician.

DUTY B: Practice quality assurance, safety, and acceptable communication skills.

DUTY C: Adhere to legal and ethical principles related to practice of dental laboratory technology.

DUTY D: Demonstrate knowledge of effective business management techniques.

DUTY E: Demonstrate knowledge of dental sciences.

DUTY F: Perform basic dental laboratory techniques consistent with current dental laboratory practice.

DUTY G: Demonstrate employability skills.

TASK LIST

DUTY A: Identify the anatomic structure and function of body systems in relation to prosthetic services performed by the dental laboratory technician.

01. Identify structures and functions of head and neck anatomy.
02. Identify embryonic development of head, oral cavity, and individual teeth.
03. Identify each tooth and its landmarks.
04. Demonstrate knowledge, principles, and methods of disease transmission and prevention as related to dental prostheses.

DUTY B: Practice quality assurance, safety, and acceptable communication skills.

01. Practice safety in accordance with institutional policy.
02. Identify documentation procedures necessary to comply with state laws.
03. Demonstrate knowledge of the dental laboratory technicians role in providing quality assurance in laboratory procedures, reporting, and use and maintenance of equipment.
04. Communicate appropriately.
05. Use appropriate medical terminology and abbreviations.
06. Follow approved procedures for labeling and identifying prostheses.

DUTY C: Adhere to legal and ethical principles related to the practice of dental laboratory technology.

01. Demonstrate knowledge of patient and worker rights and responsibilities.
02. Demonstrate knowledge of the importance of observing the doctor/technician relationship.
03. Demonstrate knowledge of state law governing the practice of Dental Laboratory Technology.

DUTY D: Demonstrate knowledge of effective business management techniques.

01. Develop an office/laboratory procedure manual.
02. Demonstrate knowledge of business finance and operating expenses.
03. Set up a pay scale and benefit program for employees and a bookkeeping system.
04. Demonstrate knowledge of tax forms, payroll records, insurance, and inventory needs.
05. Demonstrate knowledge of employee hiring orientation.

DUTY E: Demonstrate knowledge of dental sciences.

01. Demonstrate knowledge of physical properties, and use and manipulation of dental materials.
02. Demonstrate knowledge of the dynamics of occlusion.

DUTY F: Perform basic dental laboratory techniques consistent with current dental laboratory practice.

01. Fabricate complete denture prosthodontics.
02. Fabricate removable partial denture prosthodontics.
03. Fabricate fixed prosthodontics.
04. Fabricate fixed porcelain and/or porcelain to metal restorations.
05. Fabricate, finish, and polish pedodontic, orthodontic, and preventive appliances.

DUTY G: Demonstrate employability skills.

01. Conduct a job search.
02. Secure information about a job.
03. Identify documents that may be required when applying for a job.
04. Complete a job application.
05. Demonstrate competence in job interview techniques.
06. Identify or demonstrate appropriate responses to criticism from employer, supervisor, or other persons.
07. Identify acceptable work habits.
08. Demonstrate knowledge of how to make job changes appropriately.
09. Demonstrate acceptable employee health habits.

TOOLS AND EQUIPMENT

Articulator, Plain Line
Articulator, Semi-Adjustable
Articulator, Fully Adjustable
Bath, Water, Hydroscopic
Beakers, Assorted
Bins, Assorted
Blades, Assorted
Block, Soldering, Asbestos
Block, Soldering, Charcoal
Boiler
Bowls, Rubber
Brushes, Assorted
Bucket
Burner, Bunsen
Burs, Steel and Carbide
Cabinet, Epoxy Warming
Caliper
Carvers, Assorted
Chisels, Assorted
Chucks, Lathe, Assorted
Clamps, Equalock
Cleaner, Ultrasonic, with Timer and Accessories
Collector, Dust
Collector, Gold Dust
Compressor
Condenser, Ceramic
Cooker, Automatic
Crucibles
Cutters, Wire
Cylinder, Graduate, Double Scale, 30-60-125 ML
Discs, Separating and Finishing, Assorted
Dish, Dappan
Dispenser, Epoxy
Drill, Reverse Pin Facing
Duplicator
Engine, Laboratory, with Rheostats
Eraser, Air
Explorer, Dental
Eye Dropper, Glass
Flask, Acrylic Bridge and Inlay
Flask, Duplicating
Flask, Pour-N-Cure
Flask, Ejector, Upper and Lower
Formers, Base, Assorted
Formers, Bite Rim

Formers, Sprue, Assorted
Furnace, Porcelain
Furnace, Burn-out, with Timer
Gauge, Boley
Gloves, Rubber, Insulated
Goggles
Grinder, High
Gun, Air
Hammer, Air
Handpiece, Air Driven
Handpiece, Laboratory
Hemostat, Straight
Hemostat, Curved
Holder Model
Hose, Air
Jars, Assorted
Jig, Reline
Kit, Staining
Knives, Assorted
Lathe, Dental
Lighter, Bunsen
Lights, Infrared
Loops, Retention
Machine, Casting, Centrifugal, Small
Machine, Casting, Centrifugal, Large
Machine, Soldering Electric
Machine, Pindex
Machine, Electroplating, with Accessories
Machine, Casting, Centrifugal, Thermotrol
Machine, Sandblasting
Machine, Vacuum, Custom Tray
Machine, Investing, Mixing
Machine, Investing, Combination
Machine, Investing, Vacuum
Magnifier
Mallet, Rawhide
Mandrels
Mixer, Power
Nippers, Diagonal Cutting
Nippers, Plaster
Oven, Drying
Pan, Pickling
Pelette, Stain
Pick, Dental
Pins, Sprue
Pinsetter, Dowel
Plate, Hot

Pliers, Contouring
Pliers, Clasp
Points, Mounted, Assorted
Pot, Pressure
Pot, Dip Wax
Press, Spring
Press, Equalock
Press, Flask, 2-Flask Capacity
Press, Pneumatic Packing
Pump, Vacuum
Rings, Casting, Assorted
Saw, Dental
Scale, Gold
Scissors, Platinum
Scissors, Regular
Scrapers, No. 2 and No. 4
Separator, Rubber
Slab, Glass Mixing
Spacer, Die
Spatulas, Assorted
Splasher, Lathe, with Removable Tray
Steamer
Stones, Finishing, Mounted
Strainer
Surveyor, Complete
Syringe
Tank Oxygen
Tank, Boilout
Tank, Cold Water
Templates, Assorted
Timer, Interval
Tongs, Casting Ring, Small
Tongs, Casting Ring, Large
Toothbrush
Torch, Gas Air/Gas Oxygen
Torch, Alcohol
Trap, Plaster Sink
Tray, Die Lock, Full
Tray, Die Lock, Quadrant
Trays, Porcelain Firing
Trimmer, Model
Tripod
Tweezers
Unit, Curing, with Thermostat and Timer
Unit, Electric Waxing
Vacu-Press
Vibrator, Automatic

Wheels, Separating and Finishing, Assorted
Workpan

STAFF

It is anticipated that the program standards and the program guide developed as a result of this project will not change present staffing levels and certification requirements.

FACILITIES

The State Technical Committee members recommended that facilities be maintained in accordance with or exceeds those in accreditation standards for dental laboratory education programs as stated by the Commission on Dental Accreditation, American Dental Association.

APPENDIX

ACCREDITATION STANDARDS DENTAL LABORATORY TECHNOLOGY EDUCATION PROGRAMS

ACCREDITATION STANDARDS

FOR DENTAL LABORATORY TECHNOLOGY

EDUCATION PROGRAMS

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AMERICAN DENTAL ASSOCIATION 1980
Commission on Dental Accreditation

211 East Chicago Avenue
Chicago, Illinois 60611

These Standards become effective January 1, 1981.

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INTRODUCTION

Accreditation Standards for Dental Laboratory Technology Education Programs represents a revision of Requirements and Guidelines for Accredited Dental Laboratory Technology Education Programs. These standards have been developed for the following reasons: (1) to serve as a guide for dental laboratory technology education program development, (2) to serve as a stimulus for the improvement of established programs, and (3) to provide criteria for the evaluation of new and established programs. To be accredited by the Commission on Dental Accreditation, a dental laboratory technology program must meet the standards set forth in this document. These standards are national in scope and represent the minimum requirements for accreditation. The importance of academic freedom is recognized by the Commission, therefore, the standards are stated in terms which allow an institution flexibility in the development of an educational program. It is expected that institutions which voluntarily seek accreditation will recognize the ethical obligation of complying with the spirit as well as the letter of these standards.

The Commission On Dental Accreditation

From the early 1940's until 1975, the Council on Dental Education was the agency recognized as the national accrediting organization for dentistry and dentally related educational programs. On January 1, 1975, the Council on Dental Education's accreditation authority was transferred to the Commission on Accreditation of Dental and Dental Auxiliary Educational Programs, an expanded agency established to provide representation of all groups affected by its accrediting activities. In 1979, the name of the Commission was changed to the Commission on Dental Accreditation.

The Commission is comprised of 20 members. It includes a representative of the National Association of Dental Laboratories and other disciplines accredited by the Commission as well as public representatives.

During 1977, the National Association of Dental Laboratories became involved in the Commission's accreditation progam for dental laboratory technology through participation on the Committee on Dental Laboratory Technology Education and site visit evaluation teams. In the fall of 1979, the Association agreed to appoint a Commissioner.

Specialized Accreditation

Specialized accrediting agencies exist to assess and verify educational quality in particular professions or occupations to assure that individuals will be qualified to enter those disciplines. A specialized accrediting agency recognizes the course of instruction which comprises a unique set of skills and knowledge, develops the accreditation standards by which such educational programs are evaluated, conducts evaluation of programs, and publishes a list of accredited programs that meet the national accreditation standards. Accreditation standards are developed in consultation with those affected by the standards who represent the broad community of interests.

The Commission on Dental Accreditation is the specialized accrediting agency recognized by the Council on Postsecondary Accreditation and the United States Department of Education to accredit programs which provide basic preparation for licensure or certification in dentistry and the related disciplines.

Dental Laboratory Technology Accreditation

The first educational standards for the training of dental laboratory technicians were adopted by the American Dental Association House of Delegates in 1946. These standards were rescinded and revised requirements were approved in 1957.

Since then the accreditation standards have been revised two times in 1967 and 1973 to reflect the dental profession and laboratory industry's changing needs and educational trends.

In an effort to provide the community of interests with appropriate input into the latest revision of the standards, the Commission on Dental Accreditation utilized the following procedures: appointing an advisory committee composed of three representatives of the National Association of Dental Laboratories and three dental laboratory technology educators; holding open hearings at annual meetings of the National Association of Dental Laboratories and American Association of Dental Schools; and distributing widely three separate drafts of the proposed revision of the standards for review and comment. Prior to approving the revised standards in December 1979, the Commission carefully considered comments received from all sources. The revised accreditation standards were implemented in January 1981.

Between 1946 and 1957, only four programs for training dental laboratory technicians were developed and the establishment of new programs remained static through 1965. From 1966 to 1979, the number of accredited dental laboratory technology programs increased from four to 58.

Certification Of Dental Laboratory Technicians

At the present time, certification is not required for employment as a dental laboratory technician. Also, graduation from an accredited school is not a requirement for eligibility to take the certification examination which is administered by the National Board for Certification in Dental Laboratory Technology. However, time spent as a student in an accredited dental laboratory technology program is credited toward the experience eligibility requirement for the certification examination.

Candidates for graduation from programs accredited by the Commission on Dental Accreditation are eligible to take the basic written portions of the certified dental technician examination. Upon satisfactory performance and graduation from the program, the candidate is designated "Recognized Graduate" for a period not to exceed four years. After completion of the experience requirement, the candidate may take the written and practical examination in the specialty of his choice at which time he would be awarded Certified Dental Technician status. By 1982, the National Board for Certification plans to require candidates for certification to be graduates of an accredited program or the equivalent to be eligible for the examination.

STATEMENT OF GENERAL POLICY

Maintaining and improving the quality of dental laboratory technology education is a primary aim of the Commission on Dental Accreditation. In meeting its responsibilities as the specialized accrediting agency in dental laboratory technology which is recognized by the dental profession, the Council on Postsecondary Accreditation and the United States Department of Education, the Commission on Dental Accreditation:

1. Evaluates dental laboratory technology education programs on the basis of the extent to which program goals, institutional objectives and approved accreditation standards are met.

2. Supports continuing evaluation of and improvements in dental laboratory technology education programs through institutional self-evaluation.

3. Encourages innovations in program design based on sound educational principles.

4. Provides consultation in initial and on-going program development.

As a specialized accrediting agency, the Commission relies on an authorized institutional accrediting agency's evaluation of the institution's objectives, policies, administration, financial and educational resources and its total educational effort. The Commission's evaluation will be confined to those factors which are directly related to the quality of the dental laboratory technology program. In evaluating the curriculum in institutions that are accredited by a recognized regional accrediting agency, the Commission will concentrate on those courses which have been developed specifically for the dental laboratory technology program and core courses developed for related disciplines. When an institution has been granted an accreditation status or "candidate for accreditation" status by a regional agency, the Commission will accept that status as evidence that the general studies courses included in the dental laboratory technology curriculum meet accepted standards, provided level and content of such courses are appropriate for the discipline.

This entire document constitutes the accreditation standards for dental laboratory technology education programs. A summary statement of each standard is capitalized. Following the summary statement, in lower case, is an explanation of the standard. This explanation describes the Commission's interpretation of the standard and indicates how the Commission applies the standard in the evaluation process. This format is intended to clarify the meaning and application of standards for both those responsible for the educational program and those who evaluate these programs for the Commission.

DEFINITIONS OF TERMS USED IN ACCREDITATION STANDARDS

The verbs used in this document, i.e, shall, must, should, could, and may, were selected carefully and indicate the relative weight that the Commission attaches to each statement. Definitions of these verbs are provided.

1. Must or shall is an imperative need or duty, or requirement; an essential or indispensable item; mandatory.

2. Should is used to express the recommended manner by which to attain the standard.

3. May or could expresses freedom or liberty to follow a suggested alternative.

STANDARD 1. EDUCATIONAL SETTING

A DENTAL LABORATORY TECHNOLOGY PROGRAM MUST BE ESTABLISHED IN A POST-SECONDARY EDUCATIONAL INSTITUTION OR INSTITUTION THAT IS ACCREDITED BY A RECOGNIZED REGIONAL ACCREDITING AGENCY, AN AGENCY RECOGNIZED BY THE UNITED STATES DEPARTMENT OF EDUCATION OR AN OFFICIALLY RECOGNIZED STATE ACCREDITING AGENCY RESPONSIBLE FOR POST-SECONDARY EDUCATION.

If the institution has not attained accreditation an application for such recognition must have been submitted and there must be reasonable assurance that accreditation will be forthcoming. Dental schools, four-year colleges and universities, community colleges, technical institutes, vocational schools and recognized federal service training facilities which offer appropriate fiscal, facility and curriculum resources are considered appropriate settings for dental laboratory technology education programs. The institution, or the institution with which a program is affiliated, should have a primary mission of providing post-secondary education.

STANDARD 2. COMMUNITY RESOURCES

THE COMMUNITY SERVED BY THE EDUCATIONAL INSTITUTION MUST OFFER ADEQUATE PROFESSIONAL AND LABORATORY RESOURCES TO SUPPORT THE DENTAL LABORATORY TECHNOLOGY PROGRAM.

2.1 PROFESSIONAL AND LABORATORY RESOURCES: THE SIZE OF THE PROFESSIONAL AND LABORATORY COMMUNITY MUST BE ADEQUATE TO PROVIDE DENTAL PRACTITIONERS AND TECHNICIANS QUALIFIED TO ASSIST FULL-TIME FACULTY IN ORIENTING STUDENTS TO CONCEPTS OF ORAL HEALTH CARE AND THEIR ROLE AS A MEMBER OF THE DENTAL HEALTH TEAM.

If dental laboratory technology students cannot be provided with sufficient practical experience in the parent institution, then dental school laboratories, hospital dental laboratories, commercial dental laboratories, dental offices or similar facilities should be available to provide this experience.

2.2 ADVISORY COMMITTEE: AN ADVISORY COMMITTEE MUST BE UTILIZED TO SERVE AS LIAISON WITH THE DENTAL PROFESSION, DENTAL LABORATORY TECHNICIANS AND LABORATORY OWNERS IN THE COMMUNITY.

Advisory committee membership shall include dental laboratory technicians, laboratory owners and dentists who are able to provide information on the needs of the dental practitioners and dental laboratories. Documentation of community manpower needs should be on-going.

The duties and responsibilities of the advisory committee shall be clearly defined and recognize that the institution is the ultimate responsible authority in curriculum development and approval, student selection, faculty selection and administrative matters. A record of committee deliberations should be maintained and provided to committee members.

In appointing the advisory committee, the institution should seek recommendations from local or state dental and dental laboratory organizations. Appointment terms should be established to provide new input as well as continuity. There should be equable representation of dentists, employed technicians, and laboratory owners.

The advisory committee should meet at regular and frequent intervals as the program is being developed. After the program has been implemented, the committee should continue to meet regularly, usually once per term. The program director, faculty, and other institution personnel should participate in the meetings to receive the advice and assistance of the committee.

STANDARD 3. ADMINISTRATION

ADMINISTRATIVE STRUCTURE MUST INSURE THE ATTAINMENT OF PROGRAM OBJECTIVES.

Administration must include formal provisions for program planning, staffing, direction, coordination and evaluation.

3.1 STRUCTURE: THE DENTAL LABORATORY TECHNOLOGY PROGRAM MUST BE A RECOGNIZED ENTITY WITHIN THE INSTITUTION'S ADMINISTRATIVE STRUCTURE.

The position of the dental laboratory technology program in the institution's administrative structure shall permit direct communication between the program administrator and institutional administrators who are responsible for decisions that directly affect the program.

3.2 PROGRAM ADMINISTRATOR: A PROGRAM ADMINISTRATOR SHALL BE APPOINTED WHO HAS AUTHORITY RESPONSIBILITY AND PRIVILEGES NECESSARY TO MANAGE THE PROGRAM.

3.2.1 APPOINTMENT: THE PROGRAM ADMINISTRATOR MUST HAVE A FULL-TIME COMMITMENT TO THE INSTITUTION AND AN APPOINTMENT WHICH PROVIDES TIME FOR PROGRAM EVALUATION AND REVISION.

If the program administrator has responsibility for other related curriculums, necessary authority for day-to-day implementation of the program must be delegated to dental laboratory technology faculty appointed on a full-time basis.* It is preferable that this responsibility be assigned to one individual.

3.2.2 QUALIFICATIONS: THE PROGRAM ADMINISTRATOR MUST HAVE THE EXPERIENCE AND EDUCATIONAL BACKGROUND NECESSARY TO UNDERSTAND AND FULFILL PROGRAM GOALS.

The program administrator should be a graduate of an accredited dental laboratory technology education program and be certified by the National Board for Certification in Dental Laboratory

* Hereafter in the standards, the term "program administrator" will refer to the individual charged with day-to-day implementation of the program.

Technology. An administrator who is not certified should be working toward achieving that objective within a reasonable period of time. The program administrator should have attained a higher level of education than that presented in the program or be working toward a higher degree.

The program administrator's background must include practical experience as a dental technician. Formal instruction in educational methods and teaching experience in an education program are desirable.

3.2.3 DUTIES: THE PROGRAM ADMINISTRATOR MUST HAVE AUTHORITY AND RESPONSIBILITY NECESSARY TO FULFILL PROGRAM GOALS.

The administrator's responsibilities shall include: budget preparation, fiscal administration, curriculum development and coordination, selection and recommendation of individuals for faculty appointment and promotion, supervision and evaluation of faculty, making faculty teaching assignments, participation in determining admissions criteria and procedures, planning and operation of campus facilities, selection of extramural facilities and coordination of instruction in the facilities.

The program administrator's teaching contact hours and course responsibilities should be less than that of a full-time instructor who does not have administrative responsibilities. Adequate time should be provided for program planning, evaluation and administration.

3.3 FACULTY PARTICIPATION: THERE MUST BE PROVISION FOR FACULTY PARTICIPATION IN MAKING DECISIONS RELATED TO PROGRAM AND INSTITUTIONAL ORGANIZATION AND FUNCTION.

There should be opportunities for dental laboratory technology faculty representation on institution-wide committees and the program administrator should be consulted when matters directly related to the dental laboratory technology program are considered by committees that do not include dental laboratory technology faculty.

Program faculty meetings shall be held regularly to provide for subject matter correlation, curriculum evaluation, and coordination of faculty activities. Periodically, dental technology faculty should meet with faculty of other departments who teach dental technology students to coordinate instruction and evaluate their courses in relation to program objectives.

3.4 SUPPORTIVE SERVICES: SERVICES OF INSTITUTIONAL SUPPORT PERSONNEL MUST BE ADEQUATE TO FACILITATE PROGRAM OPERATION.

Secretarial and clerical staff must be assigned to assist the administrator and faculty in preparing course materials, typing correspondence, maintaining student records, and providing supportive services for student recruitment activities and admissions.

There should be support services to assist the faculty in ordering supplies and equipment, maintaining and distributing equipment and providing other instructional aid assistance.

A laboratory assistant employed for these support services should not be construed as a replacement for dental technology faculty.

Services of maintenance and custodial staff should assure that requirements of the unique program facilities are met. The dental technology faculty and students should have access to available institutional specialists such as those in the areas of curriculum, testing, computer usage, counseling, and instructional resources equal to that of other programs.

STANDARD 4. FINANCIAL SUPPORT

FINANCIAL SUPPORT FOR THE DENTAL LABORATORY TECHNOLOGY PROGRAM MUST ASSURE FULFILLMENT OF PROGRAM OBJECTIVES ON A CONTINUING BASIS.

The institution should have the financial resources required to develop and sustain the dental technology program on a continuing basis. Adequacy of of financial support will be assessed on the basis of current appropriations. The degree of dependence upon a given funding source should be based upon the stability of the source.

The ability to employ an adequate number of full-time faculty, replace and add equipment, procure supplies, reference materials, and teaching aids should be reflected in annual budget appropriations for the dental technology program. Allocations for faculty salaries should assure that the program will be in a competitive position to recruit and retain qualified faculty. (See Standard 7.4 and 7.5 for additional comments concerning faculty salaries and professional development.)

Annual appropriations should provide for innovations and changes necessary to reflect current concepts of dental laboratory technology education. Extension of any aspect of the program should be based upon adequate financial support.

STANDARD 5. CURRICULUM

THE CURRICULUM MUST BE DEFINED IN PROGRAM GOALS, GENERAL AND SPECIFIC INSTRUCTIONAL OBJECTIVES, LEARNING EXPERIENCES DESIGNED TO IMPLEMENT ACHIEVEMENT OF GOALS AND OBJECTIVES, AND EVALUATION PROCEDURES TO ASSESS ATTAINMENT OF GOALS AND OBJECTIVES.

Written documentation of the curriculum including comprehensive course outlines must be prepared and should be accessible to students and faculty. These materials should be reviewed periodically and revised as needed to reflect new concepts and techniques.

5.1 PROGRAM GOALS: THE DENTAL LABORATORY TECHNOLOGY CURRICULUM SHALL PREPARE STUDENTS TO PERFORM BASIC OR GENERAL TECHNIQUES AND PROCEDURES IN ALL ASPECTS OF DENTAL LABORATORY TECHNOLOGY.

THE CURRICULUM SHALL ALSO PREPARE STUDENTS TO PERFORM PROFICIENTLY IN TWO OR MORE OF THE FOLLOWING DISCIPLINES OR SPECIALTIES TO ASSURE THAT GRADUATES CAN FUNCTION EFFECTIVELY IN A VARIETY OF EMPLOYMENT SETTINGS: COMPLETE DENTURE PROSTHODONTICS, REMOVABLE PARTIAL PROSTHODONTICS, FIXED PROSTHODONTICS (CROWN AND BRIDGE), CERAMICS, AND ORTHODONTICS/ PEDODONTICS.

A balanced emphasis should be placed on incorporating productivity, flow time and quality requirements into the educational program. Dependent upon its objectives, resources and community needs, the institution may elect to extend the scope of the dental laboratory technology curriculum to include content and instruction in additional disciplines or specialized areas; e.g., maxillofacial prosthodontics. Institutions with the resources are encouraged to provide instruction in more than two disciplines, thus providing the opportunity for students to elect areas of specialization on the basis of their interests and for graduates to return for education in additional areas.

The program will be evaluated on the basis of the extent to which it meets the objectives for all phases of instruction offered.

5.2 CONTENT: THE BASIC CURRICULUM MUST INCLUDE CONTENT IN FOUR SUBJECT AREAS: GENERAL STUDIES, PHYSICAL SCIENCES, DENTAL SCIENCES AND DENTAL LABORATORY TECHNIQUES AND PRACTICE.

Content identified in each subject need not constitute a separate course, but may be provided in conjunction with content in a related subject as a conjoint course. Program administrators should not interpret subject areas as denoting or describing titles of specific courses in the dental technology curriculum but as subject areas that must be included in the program. General program objectives and specific instructional unit objectives shall be stated. Content and learning experiences should provide the foundation for continued formal education, independent study and occupational growth.

5.2.1 GENERAL STUDIES: THE GENERAL STUDIES ASPECT OF THE CURRICULUM MUST INCLUDE CONTENT IN COMMUNICATION SKILLS, MATHEMATICS, AND BUSINESS PRINCIPLES.

General studies subjects provide background and prepare the student to work and communicate effectively with dental practitioners, auxiliaries and laboratory personnel.

5.2.2 PHYSICAL SCIENCES: THE PHYSICAL SCIENCE ASPECT OF THE CURRICULUM MUST INCLUDE CONTENT IN CHEMISTRY AND PHYSICS.

The physical sciences provide background for dental sciences and laboratory techniques.

5.2.3 DENTAL SCIENCES: THE DENTAL SCIENCES ASPECT OF THE CURRICULUM MUST INCLUDE CONTENT IN DENTAL MATERIALS, TOOTH MORPHOLOGY, ORAL ANATOMY AND OCCLUSION.

Dental science content should provide the student with an understanding of physical properties, uses and manipulation of dental materials; tooth form and function; and structures of the oral cavity. Principles of occlusion, determinants of occlusal morphology and physiology of mandibular movements as they relate to fabrication of dental restorations, prostheses and appliances should also be included.

5.2.4 DENTAL LABORATORY SCIENCE AND TECHNIQUES: THE DENTAL LABORATORY SCIENCE AND TECHNIQUE ASPECT OF THE CURRICULUM MUST INCLUDE TECHNICAL ASPECTS OF FABRICATING DENTAL RESTORATIONS, PROSTHESES AND APPLIANCES, PRINCIPLES AND METHODS OF PREVENTING DISEASE TRANSMISSION AND CROSS CONTAMINATION, PRINCIPLES OF LABORATORY MANAGEMENT AND DENTAL PRACTICE AND LEGAL, ETHICAL AND HISTORICAL ASPECTS OF DENTISTRY AND DENTAL LABORATORY TECHNOLOGY.

Dental technology curriculum content must include theoretical aspects as well as practical application of the subjects. The theoretical aspect of the curriculum should provide content necessary for the student to make judgements regarding the procedures he or she is expected to perform. Time devoted to, and learning experience in, laboratory techniques should assure that each student has adequate opportunity to develop proficiency in performing all laboratory procedures and techniques in the curriculum. Ability to perform routine procedures for completion of clinically acceptable dental restorations and prostheses will be expected. In addition, laboratory instruction and practice extending beyond the scope of basic knowledge and skills must be presented in at least two disciplines or specialty areas.

5.3 BASIC OR GENERAL TECHNIQUES: THE DENTAL LABORATORY TECHNOLOGY CURRICULUM SHALL PREPARE GRADUATES TO ASSUME A ROLE ON THE DENTAL HEALTH TEAM AND PERFORM LABORATORY TECHNIQUES AND PROCEDURES, BY WORK AUTHORIZATION OF THE DENTIST IN ACCORDANCE WITH THE STATE DENTAL PRACTICE ACTS, IN DENTAL OFFICES, OR DENTAL LABORATORIES AND CONSISTENT WITH CURRENT PROCEDURES IN LABORATORY TECHNOLOGY AND THE GEOGRAPHIC AREA SERVED BY THE SCHOOL.

Through the educational program the student must acquire knowledge of and ability required to:

1. Complete Denture Prosthodontics
   Perform general or supportive functions, including interpreting work authorizations, evaluating preliminary and final impressions, preparing and evaluating casts, fabricating impression trays, constructing base plates and wax occlusal rims, articulating casts, arranging various types of teeth, contouring, flasking, packing, processing, recovering, selective grinding, finishing and polishing complete dentures; fabricating immediate dentures with surgical trays, and relining, rebasing and repair-

ing dentures. Instruction in the use of semi-adjustable articulators should also be included.

2. Removable Partial Denture Prosthodontics
Fabricate removable prostheses, including: surveying and designing, duplicating master casts, waxing, sprueing, investing, and casting removable partial denture frameworks utilizing recognized alloys, evaluating the fit to the master cast, finishing and polishing, arranging teeth, completing removable partial denture bases, and fabricating partial dentures with various types of retainers. Various repair procedures should also be included.

3. Fixed Prosthodontics (Crown and Bridge)
Fabricate fixed prostheses including: the construction of casts and dies, identifying margins, trimming dies, using various types of articulators, including semi-adjustable; developing wax patterns, investing, casting and soldering precious or non-precious metals; seating and finishing of castings, processing resin to restoration frameworks, finishing and polishing; fabricate inlays, onlays, full crowns and multi-unit restorations utilizing various methods for developing functional occlusion on full arch articulated casts.

4. Dental Ceramics
Fabricate fixed porcelain prostheses including: the design and construction of metal frameworks, investing, casting, presoldering and postsoldering of precious or non-precious metals; application and firing of opaque on metal, application, contouring and firing of porcelain; glazing, staining and fabricating porcelain jacket crowns.

5. Orthodontics/Pedodontics
Fabricate, finish, polish and repair pedodontic and preventive orthodontic wrought wire and autopolymerizing resin appliances, such as retainers, habit appliances and various types of holding [space maintaining] and positioning appliances; pour and trim orthognathic study casts.

5.4 SPECIALTY AREAS: IN ADDITION TO PREPARING STUDENTS TO PERFORM BASIC OR GENERAL TECHNIQUES AND PROCEDURES, THE CURRICULUM MUST PREPARE STUDENTS TO BECOME PROFICIENT* IN AT LEAST TWO OF THE SPECIALTY AREAS IDENTIFIED IN STANDARD 5.1.

Curriculum content in the specialty areas should include reinforcement of techniques and procedures which were achieved in the basic or general areas. Particular emphasis should be placed on quality and productivity improvement in this phase of training. Also techniques and procedures should be consistent with current procedures used in dental laboratory technology and the geographic area served by the program. Specialty training may include the opportunity for the student to pursue additional procedures once proficiency in two specialty areas has been achieved.

* Criteria used to determine proficiency is the ability to interpret work authorizations and complete a clinically acceptable appliance in a reasonable amount of time.

5.5 PRACTICAL EXPERIENCE: BASIC PREPARATION FOR, AND PROFICIENCY DEVELOPMENT IN, PERFORMING LABORATORY PROCEDURES SHALL BE PROVIDED IN THE PROGRAM FACILITIES.

Practical experience must be provided. When this practical experience cannot be provided in the program facilities, other laboratory facilities must be available for students' practical experiences. This experience may be provided by utilizing actual casts, impressions and occlusal records from previously fabricated restorations. Practical experiences should be evaluated by the program administrator and faculty on a continuing basis to determine the degree to which curriculum objectives are being met. Changes should be instituted when indicated.

Off-campus or extramural laboratory experiences are not required and are not considered substitutes for basic instruction to develop minimum proficiency. However, if it is determined that extramural experiences are worthwhile, the program administrator and faculty should be responsible for selecting the laboratories or institutions and for coordinating extramural experiences. The program administrator and faculty and laboratory supervisor should select individuals who will instruct, supervise, and evaluate students in extramural experiences.

Laboratory personnel should be oriented to the objectives of the program and the extramural experience, the preparation that the student has had for the laboratory assignment, and the criteria to be used in evaluating students during their assignment. In addition, students should be oriented to the laboratory operation. Laboratory procedures, instruction, and evaluation should be consistent with the philosophy and objectives of the dental technology program and the parent institution.

To enable the faculty to determine the diversity of students' extramural experiences and make appropriate revisions in subsequent assignments to compensate for any deficiencies, students should maintain a record of their activities in each laboratory.

Seminars should be held periodically with students to integrate didactic and laboratory instruction with extramural experience and to provide opportunities for students to share experiences.

The value of extramural experiences should be determined with input from the program faculty, laboratory personnel, and students. Procedures and criteria should be defined for use in evaluating the experience. Students should be encouraged to evaluate their extramural learning experiences. An appropriate evaluation mechanism should be utilized to help them do so.

Formal agreements which clearly outline the commitments of the institution and the extramural facility and the responsibilities of each should be established between the institution and extramural laboratories.

5.6 DESIGN: THE CURRICULUM MUST BE DESIGNED TO REFLECT THE INTERRELATIONSHIP OF GENERAL STUDIES, PHYSICAL SCIENCES, DENTAL SCIENCES AND DENTAL LABORATORY TECHNIQUES AND PRACTICE COMPONENTS TO PROMOTE MAXIMUM APPLICATION OF BASIC CONCEPTS IN THE PERFORMANCE OF DENTAL LABORATORY TECHNIQUES.

The design of the dental laboratory technology curriculum must reflect the philosophy and resources of the educational institution. Innovation and experimentation within the limits of institution resources are encouraged. Continuing evaluation and revision to reflect new concepts and techniques are expected.

Within the framework of the institution's philosophy, objectives and resources, there should be provision for educational mobility. The extent to which the curriculum is designed to provide opportunity for direct movement from one discipline to another should be determined by the degree of common content, both in scope and level. The objective of providing opportunities for educational mobility should be secondary to the objectives of dental laboratory technology education and the related disciplines. Curriculum structure should be consistent with the highest possible standards of education. Course content, level, scope, depth and sequence must be appropriate for the dental technology program.

Curriculum design including instructional methods and evaluation criteria and procedures should accommodate students' individual differences and foster maximum learning and skill development.

Individually-paced instruction may be used, and is acceptable, when the following conditions exist: criteria for student progress are based upon experience data; criteria are comprehensive, well defined, and measurable; number of faculty is sufficient to support supervision and instruction of students at various levels; and laboratory capacity accommodates the unique and varying scheduling requirements of this approach to instruction. The extent of provisions for individually paced instruction and learning should be determined by availability of qualified faculty and adequate institutional resources.

Program administrators and faculty are encouraged to design curriculums which will allow dental laboratory technology students to apply previously acquired knowledge and skill toward requirements for graduation in lieu of prescribed courses or modules of instruction. Those responsible for curriculum development are urged to give particular attention to providing advanced placement opportunities for students who have had dental laboratory training in short-term private vocational school programs or secondary school programs. Advanced placement or credit by examination should be based on the same standards of achievement that are required for students who earn credit through course instruction. It is expected that examinations used in granting credit will be reliable and valid and will have been standardized on the basis of performance data for students who have completed the specific course or module of instruction.

Although the Commission does not prescribe a sequence of instruction, the order of content presentation and learning experience shall be based on a reasonable relationship between the basic and applied aspects of the curriculum.

The sequence of courses or modules of instruction in fundamental principles and procedures shall precede, or when appropriate be offered in conjunction with, courses or modules of instruction which require their application. Instruction in laboratory procedures should begin early in the curriculum

STANDARD 6. ADMISSIONS

ADMISSION OF DENTAL LABORATORY TECHNOLOGY STUDENTS SHALL BE BASED ON WRITTEN CRITERIA, PROCEDURES AND POLICIES CONSISTENT WITH THOSE OF THE INSTITUTION.

Civil rights and non-discriminatory policies should be observed in admitting students. The program administrator and faculty, in cooperation with appropriate institutional personnel, should establish admissions procedures which contribute to the quality of the program. Periodic analyses should support the validity of established criteria and procedures; adjustments should be made where indicated. The expertise of institutional resource persons should be utilized in interpreting data, correlating it with student performance, and evaluating criteria.

6.1 CRITERIA AND PROCEDURES: CRITERIA FOR SELECTING STUDENTS WITH POTENTIAL FOR SUCCESSFULLY COMPLETING THE PROGRAM MUST BE ESTABLISHED.

A high school diploma, or its equivalent, must be required for admission to the dental technology program. Criteria also should include predictors of scholastic aptitude and ability to develop refined manual skills. Appropriate national standardized tests should be utilized when they are available.

Educational institutions are encouraged to utilize on an experimental basis tests that measure visual perception and manual dexterity and to incorporate data from these tests into admissions criteria when their validity as predictive measures has been demonstrated.

Admission policies and procedures may include provisions for admitting students who do not meet basic admission criteria; however, all students, regardless of knowledge and skill at entry, should meet the minimum level of performance prior to graduation. In addition, the institution and program should have the resources required to assist students who have deficiencies to achieve established performance levels without jeopardizing learning experiences of other students.

Student recruitment activities should provide an adequate number of qualified applicants to assure that standards of instruction and achievement can be maintained. Applicants should be informed of program requirements, the dental technician's functions and employment opportunities.

6.2 ADVANCED STANDING: ADMISSION OF STUDENTS WITH ADVANCED STANDING MUST BE BASED ON THE SAME STANDARDS OF ACHIEVEMENT THAT ARE REQUIRED OF STUDENTS REGULARLY ENROLLED IN THE PROGRAM.

Advanced standing policies for the dental laboratory technology program should reflect policies of the parent institution. The level of performance required for credit by examination should meet established achievement standards. National standardized equivalency and proficiency tests should be utilized when they are applicable.

Provisions should be made to accept credit earned in another institution when a course is equivalent to, or exceeds, content in a course required in the dental technology curriculum.

Equivalency or challenge examinations may be utilized to grant advanced standing. Such examinations should be comprehensive and test the same scope of knowledge and skill that is measured through quizzes and examinations administered to students who enroll in and complete the course.

6.3 ENROLLMENT: THE NUMBER OF STUDENTS ENROLLED IN THE DENTAL LABORATORY TECHNOLOGY PROGRAM MUST BE PROPORTIONATE TO THE RESOURCES AVAILABLE.

In determining the number of students to be enrolled in the program, careful consideration must be given to the standards related to community resources, financial support, curriculum, faculty and facilities.

STANDARD 7. FACULTY

THE PROGRAM SHALL BE STAFFED BY INSTRUCTORS WHO ARE WELL-QUALIFIED IN SUBJECT MATTER, DENTAL LABORATORY TECHNICAL SKILLS AND EDUCATIONAL METHODOLOGY.

7.1 QUALIFICATIONS: DENTAL LABORATORY TECHNOLOGY FACULTY MEMBERS MUST HAVE BACKGROUND IN AND CURRENT KNOWLEDGE OF DENTAL LABORATORY TECHNOLOGY AND THE SPECIFIC SUBJECTS THEY ARE TEACHING.

Faculty experience should include teaching or completion of courses in educational theory and practice. Individuals who do not have this background should be continuing their education in this area. Faculty should have attained a higher level of education than that presented in the program. Opportunities for faculty to continue their professional development should be provided.

Faculty who provide laboratory technique instruction must have knowledge of current concepts of dental laboratory technology and methods of instruction and evaluation, recognized competence in dental laboratory procedures and techniques, and practical experience as technicians. They should have attained certification by the National Board for Certification in specialty areas commensurate with their teaching responsibilities. If not certified, they should be currently working toward that objective.

7.2 NUMBER: THE NUMBER OF FULL-TIME EQUIVALENT FACULTY POSITIONS SHALL BE SUFFICIENT TO IMPLEMENT PROGRAM OBJECTIVES.

Factors considered in determining adequacy are the extent to which: faculty-student ratios in dental laboratory aspects of the curriculum provide for appropriate instruction and evaluation; ratios in classroom sessions allow application of sound principles of teaching and learning; student contact hour loads allow sufficient time for class preparation, student evaluation and counseling, development of subject content and appropriate evaluation criteria and methods, and professional development.

The ratio of faculty to students during laboratory technique instruction and practice sessions should accommodate individualized instruction and evaluation of the process as well as the end result, and allow students to progress at their individual pace from one procedure to another as techniques as mastered.

The adequacy of the number of instructors is based on appropriate faculty-student ratios during laboratory supervision rather than the number of full-time equivalent positions for the program. The instructor's student contact hour load, course responsibilities, time for preparation, and time for evaluating the student while performing laboratory procedures also are considered.

To assure development of appropriate skills, a faculty-student ratio should not exceed one instructor to ten-fifteen students during laboratory sessions. A ratio of more than one to fifteen is considered inadequate for laboratory technique instruction. These ratios are important to dental technology education because individual instruction must be provided to ensure development of correct skills.

7.3 APPOINTMENTS: THE MAJORITY OF FACULTY POSITIONS ALLOCATED TO THE PROGRAM SHALL BE UTILIZED TO APPOINT FULL-TIME FACULTY.

Those individuals who have primary responsibilities for the academic program must have full-time appointments. Provisions for appointment shall assure that the program administrator and faculty will have opportunity to evaluate the program and institute appropriate changes on a continuing basis.

Faculty members should have academic appointments of the rank appropriate for their ability, responsibility, experience and educational background.

The institution should follow nondiscriminatory principles in employing faculty. Dental laboratory technology faculty should have the same employment benefits and opportunities for promotion and tenure as other institution faculty. A dental technology faculty member's competence and responsibility for laboratory instruction should be considered in opportunities for promotion and tenure.

7.4 SALARIES: ALLOCATIONS FOR FACULTY SALARIES SHALL ASSURE THAT THE PROGRAM WILL BE IN A COMPETITIVE POSITION TO RECRUIT AND RETAIN QUALIFIED FACULTY.

Factors such as occupational experience, teaching experience, educational background and demonstrated teaching competencies should be considered in determining instructors' salaries. Salaries should be consistent with those of individuals who are employed in similar positions both within and outside the institution.

7.5 PROFESSIONAL DEVELOPMENT: OPPORTUNITIES FOR PROFESSIONAL DEVELOPMENT IN DENTAL TECHNOLOGY AND EDUCATION MUST BE PROVIDED.

Release time and financial support should be provided for faculty to participate in meetings and activities that contribute to their professional development. A representative of the program should attend at least one national or regional conference or workshop related to dental technology education each year.

7.6 FACULTY EVALUATION: A FORMAL, OBJECTIVE SYSTEM OF FACULTY EVALUATION MUST BE USED TO PROMOTE FACULTY DEVELOPMENT.

The faculty evaluation system may include student, administration, and peer evaluation to help identify areas of strengths and weaknesses for each faculty member. These evaluations should be communicated and reviewed with each faculty member.

STANDARD 8. FACILITIES

PHYSICAL FACILITIES AND EQUIPMENT MUST BE ADEQUATE TO PERMIT ACHIEVEMENT OF DENTAL LABORATORY TECHNOLOGY PROGRAM OBJECTIVES.

The institution should assess facilities and equipment periodically in relation to current concepts of dental laboratory technology and make appropriate modifications.

Administrative and faculty offices, laboratory facilities and classrooms should be provided. Facilities should effectively accommodate the number of students, faculty and staff and include appropriate provisions for safety and environmental control. Overcrowding in facilities or inadequacies in equipment will be considered as factors operating against the attainment of program objectives.

The adequacy of the facilities designated for the dental technology program is determined, in part, on the basis of student enrollment and the availability of other institution facilities, such as classrooms and a library or learning center.

8.1 LABORATORY: AN ADEQUATE LABORATORY FACILITY MUST BE PROVIDED.

The laboratory facilities must include an appropriate number of student stations, space for individual student performance of laboratory procedures with instructor supervision, and storage space. Storage space should accommodate instructional equipment, supplies, instruments and materials.

The location of equipment must be conducive to efficient and safe utilization. Safety devices and equipment must be installed and functional. Student stations must be designed and equipped for students to work while seated and include adequate lighting, necessary utilities, dust collection equipment, storage space and an adjustable, comfortable chair. Environmental control units and exhaust hoods shall be provided to maintain health.

The capacity of the laboratory shall accommodate individual student practice on a regularly scheduled basis throughout all phases of technique instruction. Adequacy of the laboratory capacity will be determined on the basis of the extent to which each student has sufficient laboratory experience to develop proficiency in performing all procedures and techniques.

An adequate laboratory facility includes, at a minimum, one station for each first-year student. If the laboratory capacity requires that two or more laboratory sections be scheduled, it must be demonstrated that time is available for all students to obtain required laboratory experience and that acceptable faculty teaching loads are maintained. If the laboratory is scheduled continuously, additional facilities should be provided to accommodate the need for students to utilize a laboratory for make-up work.

Compressed air should be available in the laboratory. Sinks with plaster control devices should be adequate in number to promote cleanliness and efficiency. The location, variety and number of general use equipment and instruments such as conventional and high speed polishing lathes, model trimmers, vibrators, ovens, casting devices and wax elimination tanks should be sufficient to allow each student the access needed to develop proficiency in performing procedures.

Attention should be given to student and faculty attire and grooming as they relate to safety in the laboratory. It is expected that occupational and health standards related to laboratory activities will meet or exceed standards established by the Occupational Safety and Health Act of 1970. Policies and procedures for the management of emergency situations which might occur in the laboratory should be established. All students and faculty should be instructed in emergency management.

8.2 CLASSROOMS: CLASSROOM SPACE SHALL BE PROVIDED FOR, AND BE READILY ACCESSIBLE TO, THE PROGRAM.

Classroom size must accommodate the number of students enrolled. Classrooms should be equipped with chalkboards, projection screens, electrical outlets, adequate lighting, and light controls to enable viewing of audio-visual materials. If classrooms are utilized by other programs, there should be enough flexibility in scheduling their use to accommodate demands imposed by the dental technology curriculum.

8.3 FACULTY OFFICES: OFFICES SHALL BE PROVIDED FOR THE PROGRAM ADMINISTRATOR AND FACULTY.

A private office should be provided for the individual responsible for the day-to-day administration of the program. Offices for the other faculty should provide privacy needed for student counseling and effective utilization of time designated for class preparation. Secure storage space for student and program records should be available.

8.4 EXTENDED CAMPUS FACILITIES: ALTHOUGH IT IS PREFERABLE AND THEREFORE RECOMMENDED THAT THE EDUCATIONAL INSTITUTION PROVIDE PHYSICAL FACILITIES AND EQUIPMENT WHICH ARE ADEQUATE TO PERMIT ACHEIVEMENT OF PROGRAM OBJECTIVES, THE INSTITUTION MAY CONTRACT FOR USE OF AN EXISTING LABORATORY FACILITY IF THE CONDITIONS STIPULATED BY THE COMMISSION ARE MET.

A laboratory in the community may be used as a primary facility when it is geographically accessible to the campus, if standards specified for program facilities are met and the following provisions are made:

1. There is a formal agreement between the educational institution and agency or institution providing the facility.

2. The dental technology program administrator retains authority and responsibility for instruction and student assignments.

3. All students receive instruction and practical experience in the facility.

4. Policies and procedures for operation of the facility are consistent with the philosophy and objectives of the educational program.

5. Availability of the facility accommodates the needs of the program.

6. A two-year notification of termination of the contract is required to assure that instruction will not be interrupted.

STANDARD 9. LEARNING RESOURCES

A WIDE RANGE OF PRINT MATERIALS AND AUDIO-VISUAL AIDS AND EQUIPMENT SHALL BE AVAILABLE FOR UTILIZATION BY STUDENTS AND FACULTY.

9.1 LIBRARY: INSTITUTION LIBRARY HOLDINGS MUST INCLUDE A DIVERSIFIED COLLECTION OF CURRENT REFERENCES ON DENTISTRY, DENTAL LABORATORY TECHNOLOGY AND RELATED SUBJECTS.

Evaluation of the adequacy of library holdings in dental technology and related areas is based on diversity and quality. Current and back issues of major scientific and professional journals related to dentistry and dental technology must be available for student and faculty reference.

Specialized reference texts should be provided in the central library in the following areas: dental and oral anatomy, tooth morphology, dental materials, complete and partial removable prosthodontics, fixed prosthodontics, ceramics, orthodontics, occlusion, maxillofacial prosthetics, ethics and jurisprudence, and history of dentistry. In addition, medical and dental dictionaries and indices should be available.

New editions and titles should be acquired as content warrants. Current and back issues of national journals related to dental technology and general and specialty dentistry to support instruction should be available for student and faculty reference. Reference texts which relate to specific areas of instruction must be provided for dental laboratory technology program faculty.

Facilities, hours and policies should be conducive to faculty and student use of the library. Budget provisions should be made for regular acquisition of current editions and new titles of books, and annual subscriptions to periodicals.

9.2 INSTRUCTIONAL AIDS AND EQUIPMENT: INSTRUCTIONAL AIDS AND EQUIPMENT MUST BE AVAILABLE TO SUPPORT INSTRUCTION IN VARIOUS COURSES.

The dental laboratory technology program should have access to audio-visual equipment and personnel on the same basis as other programs. Skeletal and anatomic models and replicas, sequential samples of laboratory procedures, slides and films which depict current techniques, and projection equipment should be available for instruction.

STANDARD 10. STUDENTS

POLICIES AND PROCEDURES TO PROTECT AND SERVE STUDENTS MUST BE ESTABLISHED AND IMPLEMENTED.

Ethical standards and policies to protect the students as consumers and avenues for appeal and due process must be provided. Student records should accurately reflect work accomplished during the program and should be maintained in a secure manner. Policies concerning confidentiality of and access to student records should adhere to guidelines based on the Freedom of Information Act.

The institution should provide services to the dental laboratory technology students, such as counseling and academic advisement, identifying student financial aid sources, and providing information about further educational opportunities equal to those available to other students.

STANDARD 11. EVENING PROGRAMS

AN EVENING DENTAL LABORATORY TECHNOLOGY PROGRAM IS REQUIRED TO MEET ALL ACCREDITATION STANDARDS AND IS EVALUATED AS A SEPARATE ENTITY.

If an institution offering an accredited day dental technology program initiates an evening program, the Commission will expect that the established day program has "approval" status. The demands placed on the faculty of a developing program or one that has less than "approval" status by adding an evening program would be viewed with concern by the Commission.

An evening program as described above should not be confused with continuing education courses. All dental laboratory technology programs are encouraged to offer continuing education courses designed to meet professional needs.

Approved by the Commission on Dental Accreditation, December, 1979.

ADDITIONS TO THE ACCREDITATION STANDARDS FOR DENTAL LABORATORY TECHNOLOGY EDUCATION PROGRAMS

STANDARD 8. FACILITIES*

8.5 INFECTION CONTROL:

Each institution must establish a mechanism to ensure adequate asepsis, infection and hazard control incident to the delivery of patient care. A written asepsis, infection and hazard control clinic/laboratory protocol must be developed and made available to all students, attending faculty and appropriate support staff.

Mechanisms must be established for monitoring the compliance with this protocol within the institution and affiliated sites. Periodic review and monitoring of the procedures and facilities should be conducted to ensure proper compliance.

* Approved by the Commission on Dental Accreditation: May 1988. Effective Date: January 1, 1989

STANDARD 12. ASSESS OUTCOMES**

EACH PROGRAM MUST REGULARLY EVALUATE THE DEGREE TO WHICH ITS GOALS ARE BEING MET THROUGH A FORMAL ASSESSMENT OF OUTCOMES.

The Commission on Dental Accreditation expects each program to define its own goals and objectives for preparing dental laboratory technicians. The Commission expects that one of the goals of the program is to prepare qualified dental laboratory technicians.

Accredited programs must design and implement their own outcomes measures to determine the degree to which their stated goals and objectives are being met. Such measurement must be ongoing and documented. Results of the assessment process must be used to evaluate the program's effectiveness in meeting its goals.

** Approved by the Commission on Dental Accreditation: May 1986. Effective Date: January 1, 1988

(Informational materials to assist programs in implementing these standards are available on request from the Commission.)

ACCREDITATION CLASSIFICATIONS USED FOR
DENTAL LABORATORY TECHNOLOGY EDUCATION PROGRAMS

Approval: An accreditation classification granted to an educational program indicating that the program in general achieves or exceeds the basic requirements for accreditation. This accreditation classification specifies that the program has no serious deficiencies or weaknesses; however, recommendations or suggestions relating to program enhancement are generally included in the evaluation report.

Conditional Approval: An accreditation classification granted to an educational program indicating that specific deficiencies or weaknesses exist in one or more basic areas of the program. The deficiencies or weaknesses are considered of such a nature that they can be corrected in a reasonable length of time which is ordinarily defined as a period not to exceed two years.* This accreditation classification is considered adequate to meet the eligibility requirements for licensure and certifying board examinations.

Provisional Approval: An accreditation classification granted to an educational program indicating that the program has a number of major deficiencies or weaknesses in one or more specific areas. This accreditation classification signifies the seriousness of the deficiencies or weaknesses but is considered adequate to meet the eligibility requirements for licensure and certifying board examinations. The deficiences or weaknesses are considered to be of such magnitude that, if not corrected, withdrawal of the program's accreditation will result. Evidence of significant progress must be demonstrated within one year.

Preliminary Provisional Approval: An accreditation classification used for awarding dental assisting, dental laboratory technology and advanced education programs initial accreditation, based on a review of the appropriate Commission survey manual rather than the site visit. This classification is granted to assure the educational institution and other agencies that the program is developing, or has developed, according to guidelines established by the Commission. This classification provides assurance of candidate eligibility for certification examination. A site evaluation of new program will be arranged at the earliest opportunity following granting of the "preliminary provisional approval." However, in the case of dental assisting and dental laboratory technology, "preliminary provisional approval" is granted for a period not to exceed eighteen (18) months from the time the status is granted or until the educational program is in full operation with students enrolled in each year of the curriculum. The "preliminary provisional approval" status will apply to the academic year in which the approved application was submitted.

Prior to termination of this prescribed period, the Commission will either review a progress report, request that an institutional representative appear before the Commission, or conduct another site visit to determine if the deficiencies or weaknesses have been satisfactorily corrected.

COMMISSION ON ACCREDITATION
January 1980

Alden, Betsey A., Pennsylvania
American Dental Hygienists' Association
Allen, Don L., Dr., Florida
American Association of Dental Schools
Brown, William E., Dr., Oklahoma, Chairman
American Association of Dental Schools
Buckner, Donald R., Maryland
Public Member
Campbell, Edward M., Dr., Kentucky
American Association of Public Health Dentists
Dendinger, Donald C., Dr., South Dakota
American Association of Dental Examiners
Diddie, Harry W., Texas
National Association of Dental Laboratories
Fabric, Fred Dr., Missouri
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Serio, Frances G., Pennsylvania
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Shick, Richard A., Dr., Michigan
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Torres, Hazel O., California
American Dental Assistants Association
Trice, Frank B., Dr., Texas
American Association of Endodontists
Wagner, David S., Dr., Pennsylvania
American Dental Association

Ginley, Thomas J., Dr., Secretary
Dougherty, Robert H., Dr., Assistant Secretary
Garrison, William, Director, Dental Laboratory Technology

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